United States Coast Guard
Maintenance and Logistics Command, Atlantic (MLCA)

MLCA NAVAL ENGINEERING DIRECTIVE (MLCA NED) – 5831-01

INSPECTION AND TEST PROCEDURE FOR SLEWING ARM DAVIT MODEL D6000FCT ON BOARD WLM 551 THROUGH 564

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ABSTRACT

This directive covers the inspection and testing of the Slewing Arm Davit Model D6000FCT onboard WLM 551-564. The procedures listed here are based upon guidance of the United States Coast Guard Naval Engineering Manual, COMDTINST M9000.6E, manufacturers' recommendations and other noted references.

FEEDBACK & UPDATES

The latest version of this document is available at:

http://www.uscg.mil/mlclant/VDiv/specs/default.htm

Beneficial comments, recommendations, additions, deletions and other pertinent data which may be of use to improve this document can be provided via the same website.

REVISION RECORD

Revision Date	Summary Of Changes	INITIALS
3/01/05	Initial Release	JW

REFERENCES

The following references were used to develop and/or are cited in this document.

A. Naval Engineering Manual (COMDTINST M9000.6E)

B. Technical Manual Slewing Arm Davit Model D6000FCT

C. Coast Guard Maintenance and Logistics Command Atlantic (MLCA), Standard Specification 5000_STD, 2004 Edition, Auxiliary Machinery Systems

Personnel

The roles of operator, rigger, and inspector are designated as follows: the operator shall operate the system as specified, the rigger shall perform all necessary tasks to facilitate the specified operation, and the inspector shall perform all specified inspections and verifications. A repair facility may be required to fill one or more of these three roles, and shall perform each task assigned. The following bullet styles denote:

- An operational task that shall be performed by one or more operators or a rigging task shall be performed by one or more riggers, as applicable.

☐ An inspection or verification that shall be performed by one or more inspectors.

Required Test Weights

Static Load Test Weight - 6,000 (+300 -0) pounds

Dynamic Load Test Weight - 5,000 (+250 -0) pounds

Rated Load Test Weight - 4,000 (+0 -200) pounds

Part 1. Visual Inspection.

Visually inspect the following components for corrosion, wear, or damage and determine that the system is safe to handle weights.

1.1 Load-Bearing Machinery and Structure:

☐ Hook assemblies.

☐ Hoist wire rope assembly

☐ Wire rope attachment points.

☐ Hoist sheave assemblies.

☐ Hoist drums and winch assemblies.

☐ Boom structure.

☐ Turret structure.

- ☐ Hoist foundation and bolts.
- ☐ Boom attachment points (pins, bushings, lock plates).
- ☐ Pedestal structure and turret-to-pedestal foundation bolts.

1.2 Electrical Safety Devices:

- ☐ Anti-two-block device.
- ☐ Cable tension sensor.
- ☐ Down stop control.

1.3 Hydraulic Components:

- ☐ Hoist motors, brakes, and associated piping.
- ☐ Hose assemblies associated with the davit.
- ☐ Hose assemblies associated with the control stand.
- ☐ Winch and swing drive DCVs and cartridge valves.
- ☐ Swing drive motors, brakes, and associated piping.
- ☐ Hand pump.

1.4 Miscellaneous Electrical and Mechanical Components:

- ☐ Control console.
- ☐ All electrical cabling.
- ☐ All electrical enclosures.
- ☐ Flood light on boom.

Part 2. No-Load Operational Test.

- Attach a weight (200 pounds or less) to the hook of the hoist being operated, if necessary, so that adequate reeving tension in the wire rope is maintained.

- Operate the main hoist, aux hoist, boom, boom extension, and swing drives through their full ranges of motion.

Verify all components listed below are in working order and further verify that the system is safe to handle test weights.

☐ Control Console

☐ Swing Drives and Turret

☐ Davit Hoist Assembly

☐ Sheave Assembly

☐ Indicator Lights

Part 3. Davit Weight Test.

3.1 Static Load Test

- Suspend a test weight of **6,000 (+300 -0) pounds** from the hoist hook.

Notice!

It is know that this particular model of davit will lift 6000 pounds, so an external means of lifting the load is not necessarily required. "Grunting" the 6000 pound test weight just clear of the deck or pier is acceptable.

- Leave the test weight on the hook for 10 minutes.

☐ Verify that the hoist brake does not slip.

- Lower and remove the test weight from the hoist hook.

☐ Verify the hoist drum, winch, and sheave attachment points (load-bearing fasteners and welds) have no permanent deformation or damage.

☐ Verify that the hoist wire rope, end fittings, and hook assembly have no permanent deformation or damage.

3.2 Dynamic Load Test

- Pick up a test weight of **5,000 (+250 -0) pounds** using the hoist hook.

- Raise and lower the test weight through 3 complete cycles, and through as large a hoisting range as practicable.

- Stop and hold the test weight for 30 seconds once in the up direction, then once in the down direction. Do this one time during each of the 3 cycles.

☐ Verify that the hoist brake stops and controls the test weight with no slippage or overheating.

☐ Verify that no unusual noise or vibration is emitted from the winch assembly or sheaves.

- Rotate the turret through 3 complete cycles and through as large a range as practicable.

- Stop rotating the turret once in the clockwise direction, then once in the counterclockwise. Do this one time during each of the 3 cycles.

☐ Verify the swing drive brake stops and controls the turret with no slippage or overheating.

☐ Verify that no unusual noise or vibration is emitted from the swing drive or the turntable bearing assembly.

- Lower and remove the test weight from the hoist hook.

☐ Verify that the hoist drum, winch, and sheave attachment points (load-bearing fasteners and welds) have no permanent deformation or damage.

☐ Verify that the hoist wire rope, end fittings, and hook assembly have no permanent deformation or damage.

☐ Verify that there are no leaks from hydraulic hoses or tubing.

☐ Verify that the hoist wire rope is wrapped on its hoist drum correctly.

3.3 Rated Load Test

- Pick up a test weight of **4,000 (+0 -200) pounds** using the hoist hook.

- Raise and lower the test weight through 10 complete cycles, and through as large a hoisting range as practicable.

- Stop and hold the test weight for 30 seconds once in the up direction, then once in the down direction. Do this one time during 3 of the 10 cycles.

☐ Verify that the hoist brake stops and controls the test weight with no slippage or overheating.

☐ Verify that no unusual noise or vibration is emitted from the hoist assembly or sheaves.

- Rotate the turret through 10 complete cycles and through as large a range as practicable.

- Stop rotating the turret once in the clockwise direction, then once in the counterclockwise. Do this one time during 3 of the 10 cycles.

☐ Verify the swing drive brake stops and controls the turret without no slippage or overheating.

☐ Verify that no unusual noise or vibration is emitted from the swing drives or the turntable bearing assembly.

- Remove the test weight from the hoist hook.

☐ Verify the hoist drum, winch, and sheave attachment points (load-bearing fasteners and welds) have no permanent deformation or damage.

☐ Verify that the hoist wire rope, end fittings, and hook assembly have no permanent deformation or damage.

☐ Verify that there are no leaks from hydraulic hoses or tubing.

☐ Verify that the hoist wire rope is wrapped on its hoist drum correctly.

Part 4. Label plates and test reports.

- Document the satisfactory completion of the procedure by fabricating and installing a label plate and submitting a report as specified in MLCA Std Spec 5000_STD.